Figure 1a: Initial core (**Prior Art**)

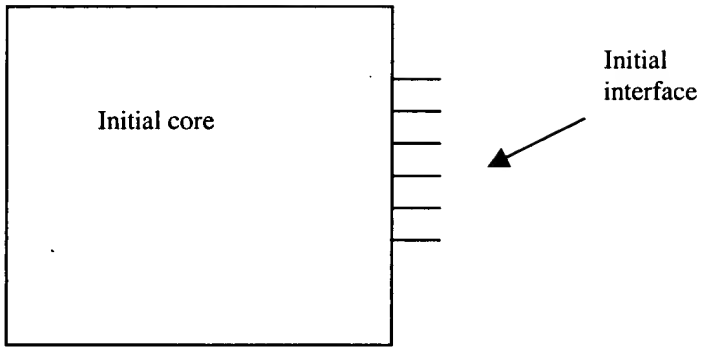


Figure 1b: Core with re-designed Interface (**Prior Art**)

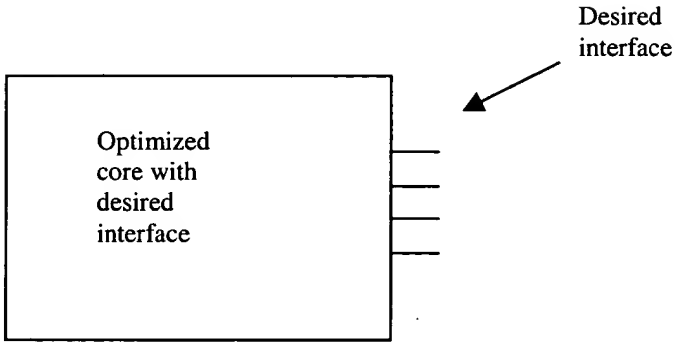


Figure 1c: Core of 1.a with external interface logic (**Prior Art**)

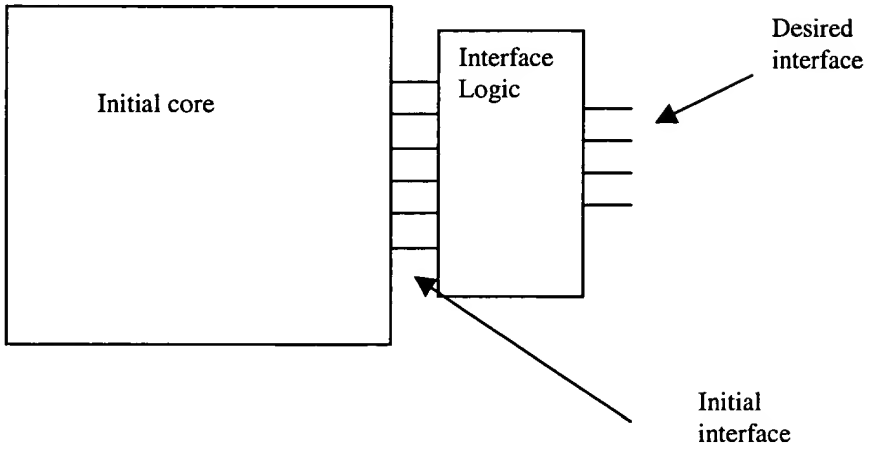


Figure 2a:

Name	Signal width	Function
Clk	1	Clock
MCmd	2	Command
MAddress	32	Address
Mdata	64	Write Data
SCmdAccept	1	Accept Command
SResp	2	Response
SData	64	Read Data

Figure 2b:

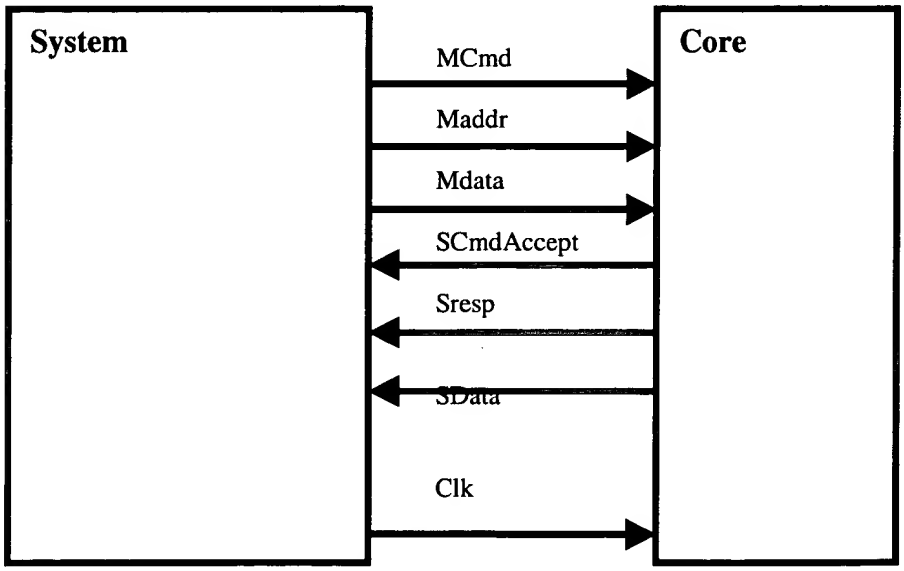


Figure 3a:

Command encoding	Function
00	Idle command
01	Read Command
10	Write Command
11	Exclusive Read Command

Figure 3b:

Burst encoding	Burst Function
000	Incrementing burst with burst length of 1
001	Incrementing burst with burst length of 2
010	Incrementing burst with burst length of 4
011	Incrementing burst with burst length of 8
100	Non-Incrementing burst

Burst encoding	Burst Function
000	Incrementing burst with burst length of 1
001	Incrementing burst with burst length of 2
010	Incrementing burst with burst length of 4
011	Incrementing burst with burst length of 8
100	Non-Incrementing burst

Figure 3c

Figure 4:

Signal Name	Width	Parametrization	Signal Enabling	Function
Clk	1	N	N	Clock
Reset	1	N	Y	Reset
MCmd	2	N	N	Request Command
MAddr	1-32	Y	N	Request Address
MData	8:16:32:64	Y	N	Request Write Data
MBurst	3	N	Y	Request Burst
MByteEn	1:2:4:8	Y	Y	Request Byte Enable
MDataValid	1	N	Y	Write Data Valid
SCmdAccept	1	N	N	Accept Command
SDataAccept	1	N	With MDataValid	Accept Write Data
SResp	2	N	N	Response
SData	8:16:32:64	Y	N	Read Response Data
MFlag	1:8	Y	Y	Master Out of Band signal
SFlag	1:8	Y	Y	Slave Out of Band Signal
MError	1	N	Y	Master Error
SError	1	N	Y	Slave Error

Figure 5:

MData_WIDTH	16
MAddr_WIDTH	32
MBurst_ENABLE	1
MByteEn_ENABLE	1
MByteEn_WIDTH	4
MDataValid_ENABLE	0
MFlag_ENABLE	1
MFlag_WIDTH	2
SFlag_ENABLE	0
MError_ENABLE	1
SError_ENABLE	0

Figure 6:

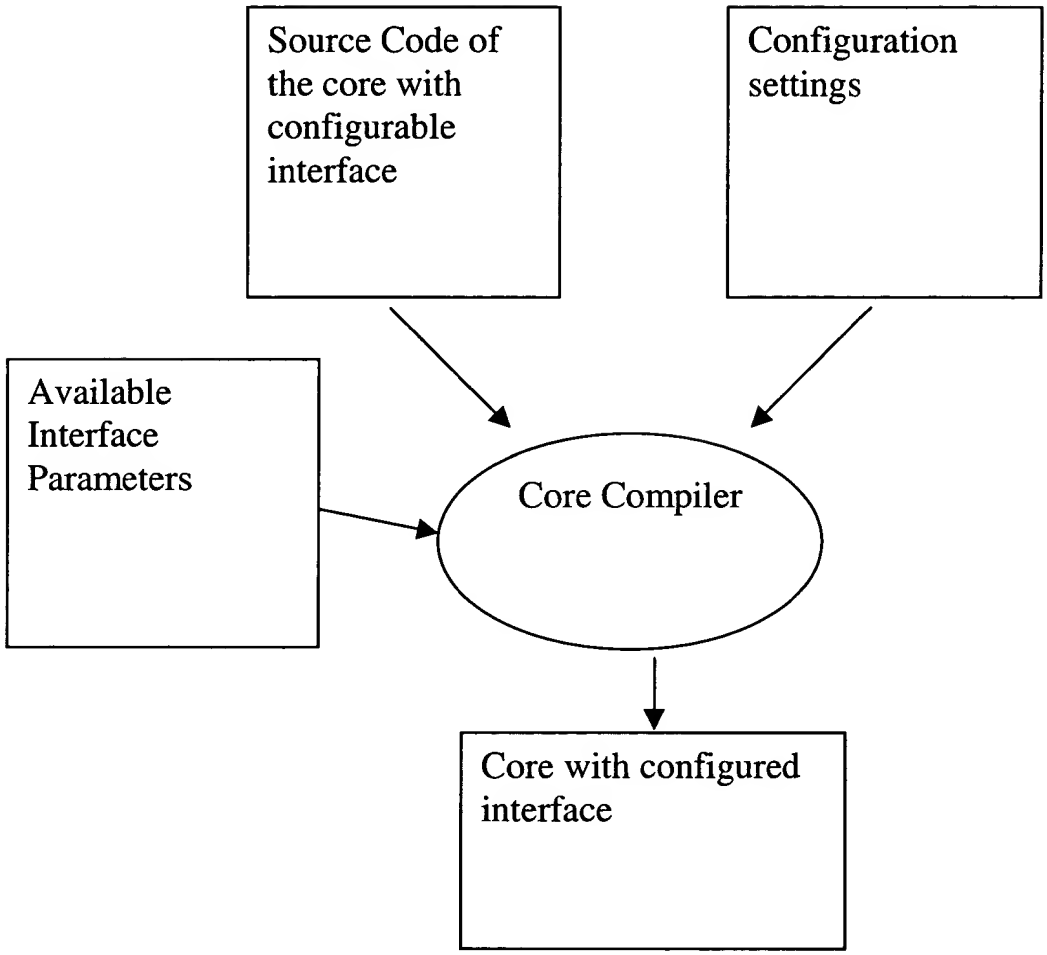
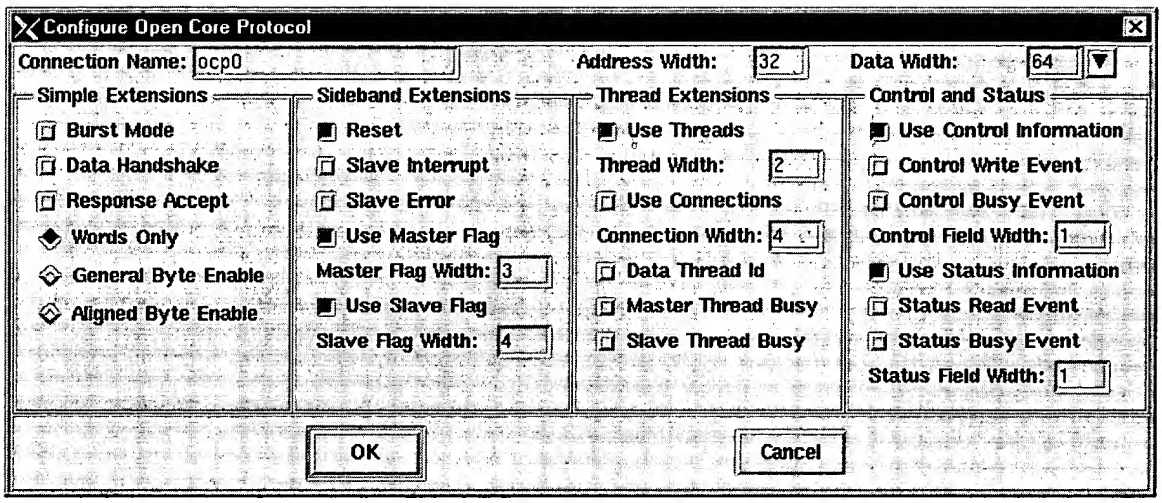

Source Code of the core with configurable interface
Configuration settings
Available Interface Parameters
Core Compiler
Core with configured interface

Figure 7:


Configure Open Core Protocol
Connection Name: ocp0
Address Width: 32
Data Width: 64
Simple Extensions
Burst Mode
Data Handshake
Response Accept
Words Only
General Byte Enable
Aligned Byte Enable
Sideband Extensions
Reset
Slave Interrupt
Slave Error
Use Master Flag
Master Flag Width: 3
Use Slave Flag
Slave Flag Width: 4
Thread Extensions
Use Threads
Thread Width: 2
Use Connections
Connection Width: 4
Data Thread Id
Master Thread Busy
Slave Thread Busy
Control and Status
Use Control Information
Control Write Event
Control Busy Event
Control Field Width: 1
Use Status Information
Status Read Event
Status Busy Event
Status Field Width: 1
OK
Cancel